HUMAN USE PATTERNS - KOBUK PRESERVE UNIT
GATES OF THE ARCTIC NATIONAL PARK AND PRESERVE

January 1999

National Park Service, Gates of the Arctic National Park and Preserve, 201 First Avenue, Fairbanks, Alaska 99707

TABLE OF CONTENTS

Introduction..... 1
Background..... 1
Legal Issues..... 2
Section I: Natural and Cultural Resources..... 6
Natural Resources
Cultural Traditions (Pre-1900)
Cultural Traditions (1900-Present)
Section II: Area Use Patterns Monitoring Study 12
Methods
Results
Discussion
Section III: Moose Census - Upper Kobuk River.....19
Section IV: Moose Harvest - Kobuk Preserve Unit.....20
Section V: Regulations.....23
Sport Game Regulations
Subsistence Game Regulations
Discussion.....27
Literature Citations.....28

INTRODUCTION

In 1995, concerns with the proposal to allow guided hunts in addition to the existing subsistence uses and unguided sport uses were voiced by the Subsistence Resource Commission for the park, local residents that utilize the Kobuk Preserve area, and longtime observers of subsistence and sport hunting activities in the region. Some of these groups perceived that conflicts already existed between user groups. During the proposed guide operations evaluation process little reliable population or harvest data was available for the primary species of interest, moose, bear, and sheefish.

This report is a summary of information available on present wildlife populations, past and present patterns and magnitudes of human use in the Kobuk Preserve unit of Gates of the Arctic National Park and Preserve. Alternative actions are formulated based upon that information and NPS management mandates in order to decide whether to accept or amend an application for providing guided hunts in the preserve. An evaluation of the potential impacts on subsistence activities and the resources upon which those activities depend is formulated for the preferred alternative as required by section 810 of ANILCA.

BACKGROUND

Gates of the Arctic National Park and Preserve was set aside as a monument in November 1978 and finally as a park with two separate preserve units in December 1980. Non-subsistence guided hunts were allowed to continue in the preserves under the auspices of the State of Alaska's exclusive guide areas until 1989 when the Owsichek decision struck that system down.

Hunting guides operating in the Itkillik preserve in 1989 were "grandfathered" by the National Park Service (NPS) until NPS concession contract and permit

regulations could be revised. There were no incumbent guides in the Kobuk unit in 1989. New concession regulations were finalized and put into place in 1992. A record of decision was signed in June 1994 finding that guided hunting services were necessary and appropriate for both preserve units. A prospectus for solicitation was submitted in July 1994 with a November 1994 guide application deadline. Two applications were received; one applicant with extensive experience in the Kobuk area and the other with extensive guide experience around the state. After careful review and deliberation the NPS review panel submitted a written evaluation of the applications and a recommendation to the park Superintendent.

After consultation with park staff the Superintendent decided to temporarily postpone selecting a guide until critical research and an area use evaluation could be completed. The applicants were informed that guide selection would be postponed until February 1996 at which time a final decision would be made based on additional data gathering and evaluation.

LEGAL ISSUES

The NPS and State of Alaska cooperatively manage the fish and wildlife resources of the Kobuk Preserve unit of Gates of the Arctic National Park and Preserve. The law allows both sport and subsistence hunting, fishing, and trapping in the preserve. The State establishes sport fishing, hunting, and trapping regulations for the preserve. The NPS assumed the responsibility for regulating subsistence seasons and bag limits on federal public lands within park unit boundaries following the McDowell decision in 1989.

The NPS considers subsistence uses by local rural residents to be a natural part of the ecosystem. The Alaska National Interest Land Conservation Act of 1980 (ANILCA) requires that the utilization of the public lands in Alaska is to cause the

least adverse impact possible on rural residents who depend upon subsistence use of the resources of such lands; consistent with management of fish and wildlife in accordance with recognized scientific principles and the purposes for which each unit [was] established..." (Section 802(1)). Further, "...nonwasteful subsistence uses of fish and wildlife and other renewable resources shall be the priority consumptive uses of all such resources on the public lands of Alaska when it is necessary to restrict taking in order to assure the continued viability of a fish or wildlife population or the continuation of subsistence uses of such population...subsistence uses shall be given preference on the public lands over other consumptive uses" (section 802(2)).

ANILCA requires that harvests of fish and wildlife are managed to ensure maintenance of healthy populations. The NPS strives to maintain the natural abundance, behavior, diversity, and ecological integrity of flora and fauna as part of their ecosystems. Section 810 of ANILCA requires a formal evaluation of proposed agency actions to permit the use, occupancy, or disposition of public lands in light of the need to minimize adverse effects on subsistence uses and needs on those lands.

Section I: Natural and Cultural Resource of the Upper Kobuk River

The upper Kobuk River valley is an extremely rich and diversified area of plant and animal resources. Native peoples have lived in the area for thousands of years, pursuing subsistence practices that are inextricably linked to the cycles of the land. Contemporary people from the Kobuk region continue the relationship with the land, hunting and fishing in accord with traditions based on generations of knowledge about the land and its resources.

NATURAL RESOURCES

The upper Kobuk, above the mouth of the Ambler River, flows in a generally east to west direction. The valley is a conduit for the exchange of air between the coast and interior, creating windy conditions and providing for extreme changes in temperatures. The river freezes in October and breaks up in May. The terrain ranges from rugged mountains and rounded hills to lowlands and flats. A rich variety of species in boreal forest and tundra plant communities allows people to make extensive use of plant resources for food, craft and medicines.

The Kobuk River is home to many species of fish including sheefish, chum and king salmon, whitefish, Arctic char, Arctic grayling, and northern pike. Populations of fish (excluding salmon, sheefish and whitefish) move seasonally within the Kobuk River to reach critical spawning grounds and return to overwintering areas. Salmon spawn in the river and the young return to the ocean to rear. Sheefish and whitefish spawn in the upper river and return to overwinter in the lower river. The timing of these cycles shapes the yearly activities of the people of the area.

Ungulates in the area include caribou and moose. Several thousand caribou of the Western Arctic herd normally winter in the upper Kobuk area. The herd declined in the 1870s making caribou hunting difficult except in the upper Noatak

and Colville River drainages. After 1940 caribou began returning to the Kobuk during the winter, allowing the Eskimos to hunt them during the fall migration. The Western Arctic caribou herd now numbers over 500,000 animals and migrates through most of northwestern Alaska. Prior to the 1880s there were no moose in the Kobuk River valley but moose began to move into the area in the early 1900s. The most recent moose population survey reported an average density of .57 moose per square mile in the upper Kobuk (Dau, et.al. 1995).

CULTURAL TRADITIONS (PRE-1900)

The earliest accounts of the Upper Kobuk area are from explorers, miners and geologists in the last part of the 1800s. While their interest focused on geography and the resources of the country, they also observed the people and their way of life. Other information on the people of the upper Kobuk is available through early ethnographic studies and missionary reports. Ernest S. Burch used these sources to construct an account of land and resource use prior to 1900 in *The Cultural and Natural Heritage of Northwest Alaska* (1994).

The cultural traditions of the people of the upper Kobuk are a blend of Koyukon Athabascan and Inupiat Eskimo. During the first half of the nineteenth century the inhabitants of the upper Kobuk river valley were Koyukon Indians. Through isolation from other Indian groups and increasing trading and other interactions with coastal Inupiat people they assimilated the Eskimo way of life. They adopted the Inupiat language and many of the customs, calling themselves Eskimo even though they retained the physical traits of their Athabascan heritage. People on the Kobuk maintained close ties to Koyukon Athabascans, participating in trading partnerships, interethnic marriage and adoption (Engelhard 1993). Coexisting place names, oral history accounts, and historic narratives indicate joint or seasonally alternating Athabascan and Inupiat land and resource use on the upper Kobuk River.

The yearly cycle of the upper Kobuk people prior to 1900 depended upon the annual fish and caribou migrations. People moved to locations that allowed them to make best use of seasonal resources. Summer fish camps with willow and skin houses, fish drying racks and smoke houses were established in early June. Women, children and elders stayed in the camps, subsisting on berries, greens, ducks, grayling and pike until migratory fish arrived. Whitefish began arriving in mid-July, salmon soon after with the main run occurring in late July to early August. Most of the fish were preserved by drying on racks. After helping set up the fish camps the men hunted caribou, Dall sheep and marmot in the mountains, accumulating hides and sinew for sewing and drying the meat for food.

In early fall men returned to the fish camps and fished, and hunted ducks, geese, bear and caribou. After the fishing season special camps were made in areas where drive fences could be constructed to take advantage of the fall caribou migration. These fences, made of stone cairns and maintained on a yearly basis, stretched for long distances across the tundra and channeled the caribou into lakes where the hunters with spears waited in their kayaks. The meat was either dried or frozen and the hides and antlers saved for sewing and making tools. After freeze up the people moved back downriver to winter locations, building semi-subterranean sod covered houses and caches. Snares were set for ptarmigan, hare and caribou and weirs were built to catch whitefish as they moved back downriver. Fewer subsistence activities could take place in the winter and it was generally a time for repairing equipment, story telling and attending messenger feasts or other dances and festivities.

In the late nineteenth century the population of people on the upper Kobuk declined due to environmental and social factors. These included the decline of the Western Arctic caribou herd, the introduction of diseases and subsequent

death of many people, and the mining operation in the Nome area which drew people away for wage labor. It was not until 1903 with the establishment of a supply depot and post office at the present day Kobuk village site and subsequent opening of a mission school that the population in the area increased, growing to about 150 people in 1905.

CULTURAL TRADITIONS (1900 TO PRESENT)

Contemporary information about the people from the Kobuk region is drawn from studies by Anderson et.al.(1977), a subsistence study by Georgette and Loon (1990), and Engelhard et.al.(1993). A subsistence lifestyle is still at the heart of the life of the people of the upper Kobuk river valley. Although they live in permanent villages, participate in a wage economy and carry out subsistence activities using the latest technology, they depend on hunting and gathering for much of their livelihood. This means that they continue to adhere to a traditional round of hunting, fishing and gathering activities.

Inupiat people travel largely by boat in the summer, living in fish camps for time periods ranging from two weeks to the entire season. People also go to the fish camps to fish and return to the villages to cut and dry the fish. Some camps are located farther upriver because there is less competition for productive fishing sites and because fewer people and less river traffic create more hunting opportunities. Families occupy the same camps in traditional sites that have been used year after year. Upper Kobuk residents recognize that certain sites traditionally belong to certain families. These rights are respected, although if a site is not being used someone else can fish there.

Fall activities are hunting, fishing, and gathering. Fishing takes place in the fish camps located along the river, caribou hunting occurs wherever the caribou happen to pass through the area on their southward migration. Moose are also

hunted in the fall when they congregate along the river and tributaries. Ducks and geese are hunted by people traveling along the river and from the fish camps. Berry picking takes place in the fall along the Kobuk River and also on the flatlands and lower mountain slopes. Blueberries, cranberries, bearberries and cloudberries are the main types gathered. Winter travel is commonly by snowmachine to trap furbearers and hunt caribou. Whitefish are caught by gill netting under the ice, and snowshoe hare and ptarmigan supplement food supplies during the winter months.

People make use of warmer spring days and more sunlight to make longer hunting trips and to visit friends and relatives in other villages. Spring activities include caribou hunting, muskrat trapping, and gill netting for pike, grayling and whitefish in creeks and sloughs before the migratory fish arrive.

The past 20 years have seen an increase of non-local people into the area for hunting, fishing, and recreational activities. Kobuk area residents tolerate the influx of other users but are concerned about their effect on traditional subsistence activities. Although the historic interaction between Athabascan and Inupiat peoples makes it tempting to assume that the people are used to encountering 'strangers' in their territories, those relationships were mediated by factors such as trading partnerships, intermarriage, and rules governing who could enter and use another person's territory. They were very different from contemporary meetings between Kobuk river residents and people who travel into the area for sport hunting and fishing or recreational floats. Georgette and Loon (1990) document several conflicts between local residents and sports persons because of differing values and perceptions. The people from the Kobuk do not like the increasing air traffic in the area. Even a small number of fall sport hunting or fishing camps or recreational floaters along the river can disrupt traditional patterns of use by reducing the opportunity for subsistence activities. Local people tend to avoid areas being used by non-locals especially if an airplane is

parked in the area. Local residents consider the area their own territory and want to know who people are and what they are doing. They also object to catch-and-release fishing and disposal of fish entrails in the river, practices that are considered ethical by sport fishermen. Kobuk residents feel that these practices are damaging and disrespectful to the fish.

Section II: Area Use Patterns Monitoring - Autumn, 1995

In August 1995, Gates of the Arctic National Park staff increased their effort to monitor human use on the Kobuk River, in and around the preserve. This project coincided with the second year of a three year cooperative upper Kobuk River sheefish population study with Alaska Department of Fish and Game. The shared base camp was located approximately forty river miles above the village of Kobuk across from a prominent bluff locally referred to as Łaakki. The immediate area surrounding camp was a focal point for fishing by both local subsistence people and sport fishermen. The camp was approximately ten river miles below the preserve boundary and provided a good observation point for both air and river traffic in and out of the preserve.

METHODS

During the seven week fish research study, use data was collected by park staff who rotated through the camp and monitored daily aircraft and boat activity in the area. Data collection was designed to monitor the consumptive and non-consumptive use in the area by both subsistence and sport hunters, fishermen and recreational boaters. Boat observation categories included: date, time, boat type, direction, purpose, activity, number of people in the group, general comments, and name of observer. Activity determinations were based on local knowledge of boat owner or identification of passengers. Aircraft observation categories included date, time, aircraft model, direction, activity, general comments, and name of observer. Recorders differentiated between aircraft landings, low-level flights, and commuter overflights.

"Low Level" flights were defined as aircraft under 3000 feet above ground level (AGL) with landing gear distinguishable. Aircraft that were picking up or dropping off passengers were in a separate category, "Landed". Several commercial air carriers had scheduled flights to villages in the area and made daily flights over

the monitoring area. These planes were usually above 3000 feet AGL and were recorded as "Flyovers". Planes that were searching or circling the river at low levels were listed in the "Circled Area" category.

In addition to staff based at the research camp park staff also conducted several float trips between Walker Lake and Shungnak and several aerial patrols in the area. Any pertinent information gathered from backcountry patrols has been incorporated into the study results.

RESULTS

Observations were recorded for seven weeks, from August 13 through September 30, 1995. Aircraft activity results are summarized in Table 1. Monitoring occurred during a short window of time, however it coincided with the most intense hunting and fishing activity of the season.

Table 1. Summary of riverboat activity observed in and near the Kobuk Preserve unit, Gates of the Arctic National Park and Preserve, August 15 through September 30, 1995.

WEEK	ACTIVITY	# OF GROUPS	BOAT TYPE
8/13-8/19	SPORT HUNTING	1	*RIVERBOAT
	SUBS. HUNTING	1	RIVERBOAT
	SPORT FISHING	O	NONE
	SUBS. FISHING	3	RIVERBOAT
	RECREATION	2	KAYAK
8/20-8/26	SPORT HUNTING	O	NONE
	SUBS. HUNTING	1	RIVERBOAT
	SPORT FISHING	1	**RAFT
	SUBS. FISHING	1	RIVERBOAT
	RECREATION	1	RAFT
8/27-9/2	SPORT HUNTING	O	NONE
	SUBS. HUNTING	1	RIVERBOAT
	SPORT FISHING	1	RIVERBOAT
	SUBS. FISHING	2	RIVERBOAT
	RECREATION	1	CANOE
9/3-9/9	SPORT HUNTING	1	ZODIAC
	SUBS. HUNTING	2	RIVERBOAT
	SPORT FISHING	1	RIVERBOAT
	SUBS. FISHING	3	RIVERBOAT
	RECREATION	O	NONE
9/10-9/16	SPORT HUNTING	2	RAFT
	SUBS. HUNTING	7	RIVERBOAT
	SPORT FISHING	O	NONE
	SUBS. FISHING	10	RIVERBOAT
	RECREATION	O	NONE
9/17-9/23	SPORT HUNTING	4	RAFT
	SUBS. HUNTING	2	RIVERBOAT
	SPORT FISHING	O	NONE
	SUBS. FISHING	5	RIVERBOAT
	RECREATION	O	NONE
9/24-9/30	SPORT HUNTING	O	NONE
	SUBS. HUNTING	2	RIVERBOAT
	SPORT FISHING	O	NONE
	SUBS. FISHING	2	RIVERBOAT
	RECREATION	O	NONE

* Non-local black bear hunter used a motorized craft

** Three fishermen landed private planes and used a motorized inflatable raft

Activity monitoring coincided with the opening of hunting season for moose and grizzly bear. Caribou hunting season opened on July 1, however caribou did not migrate into the area until early September. Observers recorded any harvest information they were able to obtain.

The number of flights recorded in the "Landed" category is disproportionately high due to support flights in association with the sheefish study. Crew shifts and fuel supplies were flown on a weekly basis. Approximately 14 of the 36 planes that landed were park operations related. Aerial fish surveys, in support of the sheefish research, were flown during the monitoring project. These flights accounted for three of 35 low level flights.

In addition to the information summarized in the Table 1, observations from backcountry trip reports were summarized. A float trip from Reed River confluence to the village of Shungnak was conducted August 9-17, 1995. Staff observed four float plane landings, two wheel plane landings and two planes that circled looking for fish. Another float trip from Walker Lake to the sheefish research camp was conducted from September 5-14, 1995. During this trip staff heard gunshots near Walker Lake, observed five low level flyovers and one plane circling. Aerial flight patrols over the preserve unit were conducted on September 10 and 11, 1995. The NPS pilot observed an aircraft on Narvak Lake on both days.

A summary of river activity is shown in Table 2, grouped by the use activity and the boat type during the seven week monitoring period. Five different types of activities were observed and 5 various boat types; powered riverboats, rafts, kayaks, canoes, and powered zodiac-type rafts.

For the most part, local subsistence hunters and fishermen used riverboats and the sport hunters and recreationists used rafts with paddles. Exceptions to

activity/boat type "norm" did occur. Two Cessna 185 float planes landed at Laakki and used a motorized raft to catch and release sheefish on August 12, 1995. A non-local hunter harvested a black bear using a motor powered raft on August 19, 1995. Between August 25-27, 1995 three wheel planes landed near the confluence of the Pah River and used a powered raft to fish. Four Germans camped in a wall tent across from the sheefish research camp and used a riverboat rented from a Kobuk resident to sport fish in the immediate area for 10 days beginning August 26, 1995. A hunting guide established a base camp upriver from the research camp, first noted on September 4,1995. He used a powered zodiac raft to move clients up and down river for hunting.

Observations from mid-August through September, 1995 noted non-locals harvesting 1 black bear, two caribou and 2 moose and local subsistence users harvesting 2 caribou, and 3 moose. State sport/subsistence harvest records from 1995 are not available at this time.

Table 2. Summary of aircraft activity observed in and near the Kobuk preserve unit, Gates of the Arctic National Park and Preserve, August 15 - September 30, 1995.

	WEEK 1 8/13-8/19	WEEK 2 8/20-8/26	WEEK 3 8/27-9/2	WEEK 4 9/3-9/9	WEEK 5 9/10-9/16	WEEK 6 9/17-9/23	WEEK 7 9/25-9/30
Wheel Plane	5	21	5	11	18	3	1
Float Plane	9	9	10	6	9	4	0
Low Level	4	2	3	1	16	8	1
Landed	6	4	9	5	5	2	0
Circled Area	2	2	1	1	5	2	1
Fly Over	4	23	9	15	19	5	3
Total Minus Flyovers	26	43	28	24	53	15	3
TOTAL	30	66	37	39	72	20	6

Current records indicate that three guides are licensed to operate in Unit 23, Area 04, which comprises the area being studied. Estimates submitted on the Operations Plan for each of these three guides indicates that their total projected harvest for 1995 was going to be: 18 caribou, 14 moose, 9 black bear, 4 brown bear, and 4 wolves.

DISCUSSION

Several factors affected the reliability of information collected during the use monitoring project. The study period was short and only provides a portion of observations of actual annual use. The weekly rotation of NPS personnel introduced an inconsistency between observers collecting the information. Some observers did not document all aircraft activity. Park project related flights may not have been recorded by all observers. Though this was a rare exception, there were times when the research crew was too small to allow one person to remain in camp. This left these days unreported. Due to staff shortages, activity was not monitored for a total of 5 days, scattered throughout the monitoring period.

Section III: Moose Census of Upper Kobuk River - 1995

A cooperative Alaska Department of Fish and Game/National Park Service moose census was conducted November 8-10, 1995 in a 1438 square mile area of moose habitat in the upper Kobuk River. The survey area included about 525 square miles of the Kobuk preserve unit of Gates of the Arctic National Park and Preserve (Figure 1). The population estimate for the entire survey area was 815 +/- 152 moose at the 80% confidence interval (Dau and Ayers, pers. Comm.). The density was 0.57 moose per square mile, a relatively low density moose population, typical of boreal forest habitats.

The herd composition analysis indicated a bull:cow ratio of 62 bulls:100 cows . This is considered a healthy bull:cow ratio, allowing sufficient numbers of bulls to impregnate the cows. The ratio suggests that the current bull harvest is reasonable for the population. The calf:cow ratio was 19 calves:100 cows.

The survey was the first moose census to be conducted in the upper Kobuk River area and provides a baseline data set against which future survey data can be compared. Because this is the only set of data currently available for the upper Kobuk, it is impossible to say whether the population is increasing, decreasing or in a stable phase.

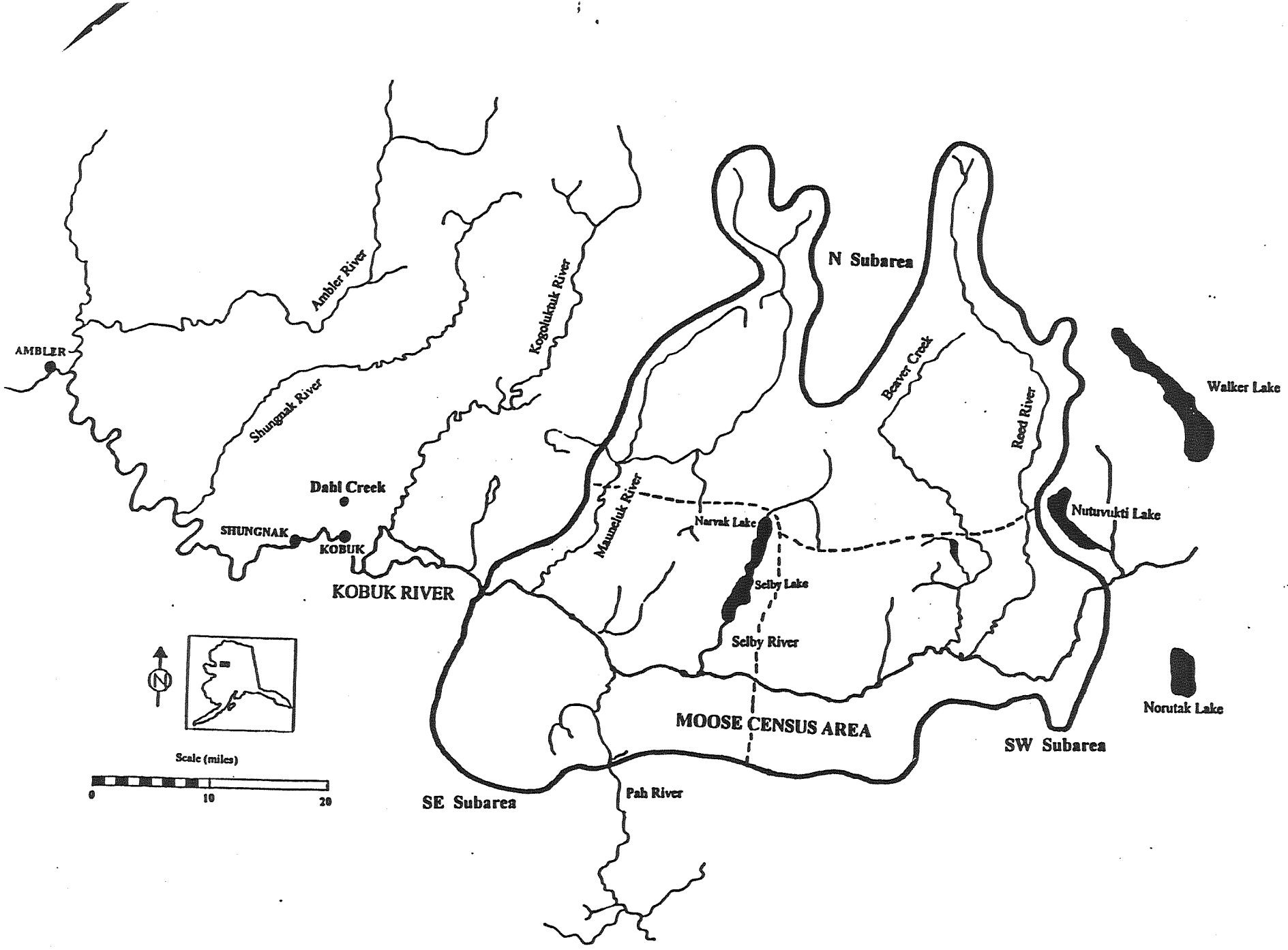

Figure 1. The 1995 upper Kobuk moose census area.

Section IV: Moose Harvest in the Kobuk Preserve Unit

The data summarized in this report is a compilation of returned harvest ticket information collected by the Alaska Department of Fish and Game. The database was searched to list records from the Uniform Coding Units (UCU) in Game Management Unit (GMU) 23 which covers most of the preserve: 2701, 2801, 2901 and 3001 (Fig. 2). A small portion of the preserve lies within GMU 24. These areas are small and difficult to reach by fixed wing aircraft or boat. All years on record in the database, 1983 through 1992, were searched for these four UCUs in GMU 23. There were no records for 1983 in these UCUs. This harvest information is considered to be an incomplete portrayal of what is actually being harvested. It is common knowledge that a portion of the sport and subsistence harvest goes unreported. The percentage of non-reports is not known at this time.

A total of 64 moose were reported harvested from the four UCUs within the Kobuk preserve unit from 1984 to 1992. Thirty-five of these hunts were successful (a moose was harvested) and 29 were unsuccessful (Table 3). The majority of hunts (n=36) took place in UCU 2801 over the nine years on record, with 19 being successful and 17 unsuccessful hunts. Most other hunting (n=20) took place in UCU 3001. There are no records of hunts in UCU 2901 during any year in the database. Data from 1989 showed the greatest return of tickets (n=20) resulting in a 60% success rate. The second highest number of hunts (n=12) occurred in 1991, with a 33% success rate. Table 4 summarizes the amount of successful vs. Unsuccessful hunts by UCUs. Table 5 summarizes the data for moose harvest success by year. Of the 35 moose reported harvested, two were females (harvested in 1990 and 1991).

Fig. 2. Uniform Coding Units (UCUs) of GMUs 23 and 24 within the Kobuk Preserve Unit of Gates of the Arctic National Park and Preserve, Alaska.

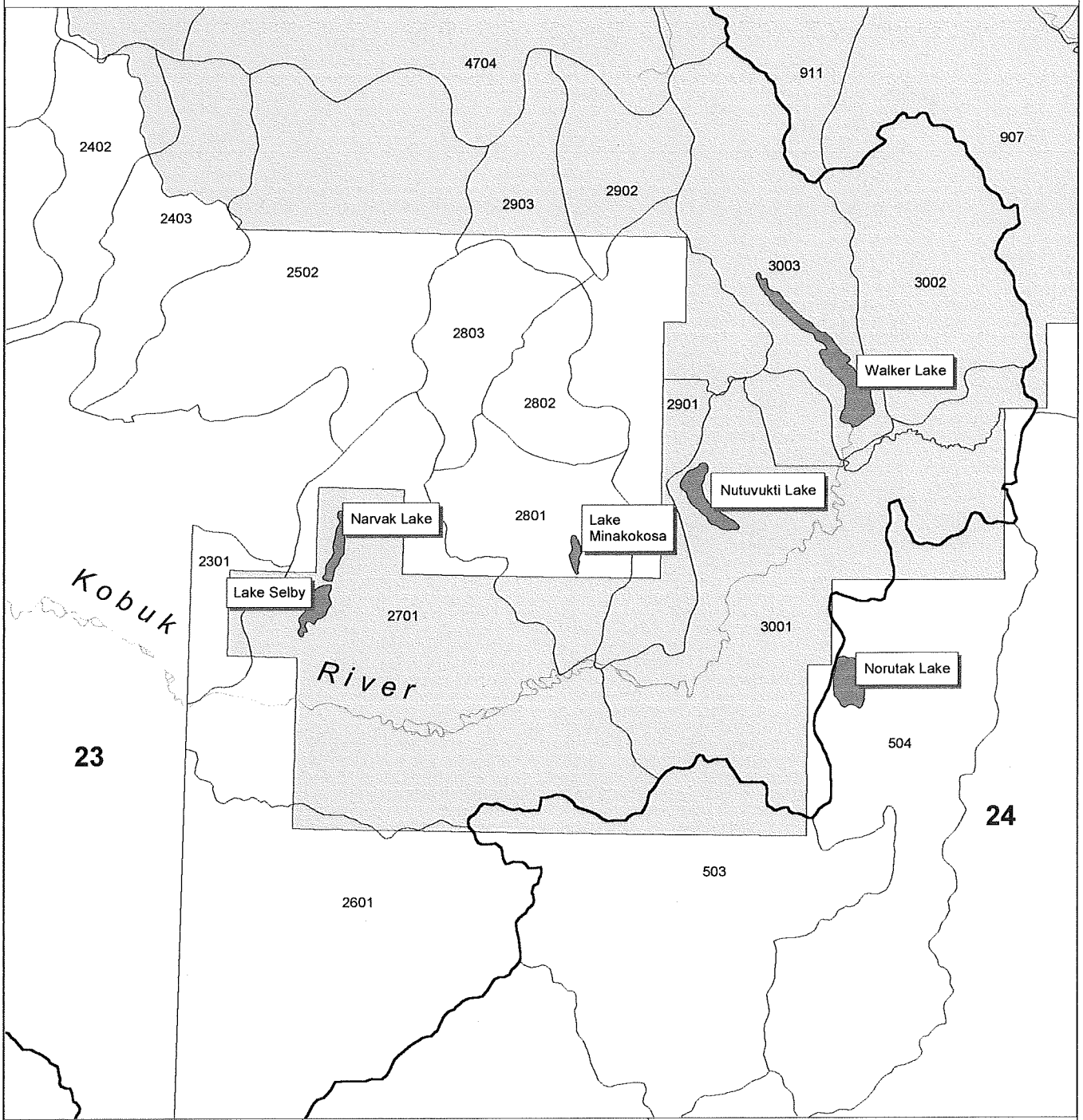

Table 3. Reported moose harvest in the Kobuk Preserve, Gates of the Arctic National Park and Preserve, Alaska. The harvest is reported as "kill" (moose killed) or "not" (no moose killed) by year. Data from the Alaska Department of Fish and Game. Uniform Coding Unit (UCU) numbers in Game Management Unit 23.

YEAR	UCU 2701		UCU 2801		UCU 2901		UCU 3001		TOTL
	KILL	NOT	KILL	NOT	KILL	NOT	KILL	NOT	HUNT
1984	0	1	1	0	0	0	1	0	3
1985	0	0	1	1	0	0	2	1	5
1986	1	0	0	0	0	0	0	1	2
1987	0	0	1	1	0	0	0	0	2
1988	0	0	3	1	0	0	2	0	6
1989	0	0	7	6	0	0	5	2	20
1990	1	0	3	4	0	0	0	0	8
1991	1	2	3	4	0	0	0	2	12
1992	1	1	0	0	0	0	2	2	6
TOTAL HUNT	4	4	19	17	0	0	12	8	64

Table 4. Reported moose harvest in the Kobuk Preserve, Gates of the Arctic National Park and Preserve, Alaska. The hunt is reported as "successful" (moose killed) or "unsuccessful" (no moose killed) in the Uniform Coding Units (UCU's) of GMU 23, from 1983 to 1992. Data from the Alaska Department of Fish and Game.

UCU	SUCCESSFUL	UNSUCCESSFUL	TOTAL
2701	4	4	8
2801	19	17	36
2901	0	0	0
3001	12	8	20
TOTAL	35	29	64

Table 5. Reported moose harvest in the Kobuk Preserve, Gates of the Arctic National Park and Preserve, Alaska. The harvest is reported as "successful" (moose killed) or "unsuccessful" (no moose killed) by year. Harvest from UCUs 2701, 2801, 2901 and 3001 of GMU 23 are combined in this table. Data from the Alaska Department of Fish and Game.

YEAR	SUCCESSFUL	UNSUCCESSFUL	TOTAL
1984	2	1	3
1985	3	2	5
1986	1	1	2
1987	1	1	2
1988	5	1	6
1989	12	8	20
1990	4	4	8
1991	4	8	12
1992	3	3	6
TOTAL	35	29	64

Section V: Regulations

1995-1996 STATE GAME REGULATIONS SPECIFIC TO PORTIONS OF GMU 23 WITHIN THE KOBUK PRESERVE UNIT

BLACK BEAR

Residents and Nonresidents: Three bears; No closed season

BROWN/GRIZZLY BEAR

The preserve lies within the Northwest Brown Bear Management Area.
See attached description of specific requirements.

Residents: A) One bear every regulatory year by permit only.
(see requirements attached)
OR B) one bear every 4 regulatory years

Open Season: A) Sept. 1 - May 31
B) Sept. 1 - 0ct.10
OR April 15 - May 25

Nonresidents: One bear every four regulatory years

Open Season: Sept. 1 - 0ct.10
OR April 15 - May 25

CARIBOU

Residents: Five caribou per day

Open Season: May 16 - June 30, **bulls**
July 1 - May 15, **any caribou**

Nonresidents: Five caribou total

Open Season: May 16 - June 30, **bulls**
July 1 - May 15, **any caribou**

See attached information regarding "same day airborne"
Same day airborne hunting is allowed.

MOOSE

Residents: One moose (not a cow with calf)
Open Season: Aug. 1 - Mar. 31
Nonresidents: One bull with spike-fork or 50-inch antlers or antlers with 4 or more brow tines on at least one side
Open Season: Sept. 1 - Sept. 20

WOLF

Residents and Nonresidents: Five wolves
Open Season: Aug. 1O - April 20
No wolf hunting same-day-airborne

WOLVERINE

Residents and Nonresidents: One wolverine
Open Season: Sept. 1 - Mar. 31
No wolverine hunting same-day-airborne

1995-1996 FEDERAL SUBSISTENCE GAME REGULATIONS SPECIFIC TO PORTION OF GMU 23 WITHIN KOBUK PRESERVE UNIT

BLACK BEAR

**No Customary and Traditional (C&T) determination

Bag limit: 3 bears
Open season: July 1 - June 30

BROWN BEAR

**Rural Residents of GMU 23

Bag limit: 1 bear
Open Season: September 1 - May 1

CARIBOU

** Unit 23, Western Arctic herd only -- Rural residents of GMU 21(D) west of the Koyukuk and Yukon Rivers, and rural residents of Units 22(a), 22(B), 23, 24, and 26(A)

Bag limit: 15 caribou per day; however, cow caribou may not be taken May 16 - June 30
Open Season: July 1 - June 30

MOOSE

**Rural residents of GMU 23

Bag limit: 1 moose; no person may take a cow accompanied by a calf
Open Season: August 1 - March 31

WOLF

**Rural residents of GMU 23

Bag limit: 5 wolves
Open season: November 10 - March 31

WOLVERINE

**No determination

Bag limit: 1 wolverine
Open season: September 1 - March 31

CONCLUSION

Although Kobuk People use contemporary tools and transportation, their interactions with the land and resources are essentially the same as they have been for at least 150 years. Since ANILCA provides for sport hunting opportunities in addition to a subsistence priority, the challenge for land managers becomes how to balance the two without causing conflict. The strong tradition of intensive subsistence use in the Kobuk River corridor suggests that increased non-subsistence activities along the river would have a negative impact. Allowing a commercial guide to operate on the upper Kobuk in an area utilized by subsistence users who want to get away from the more crowded conditions downstream would not set a good precedent for NPS management. Since the lakes and land not adjacent to the river are not areas of contemporary or historic heavy use, one possible solution would be to limit commercial guiding to those areas. The constantly changing nature of the location and abundance of subsistence resources suggests that permits for commercial guiding should be reviewed on a regular basis to remain responsive to possible conflicts with subsistence users.

The Kobuk river valley is the focus of the subsistence activities of the Kobuk river residents and is central to the continuation of their way of life and cultural traditions. Through thoughtful management, the National Park Service can encourage traditional subsistence practices along the Kobuk River and at the same time provide a satisfactory opportunity for commercially guided sports persons and other park and preserve visitors.

LITERATURE CITED

Anderson, Douglas D., Wanni W. Anderson, Ray Bane, Richard K. Nelson, and Nita Sheldon. 1977. Kuuvaŋmiit Subsistence: Traditional Eskimo Life in the Latter Twentieth Century. Washington, D.C. National Park Service.

Burch, Ernest S., Jr. 1994. The Cultural and Natural Heritage of Northwest Alaska. Vol. 5, The Inupiaq National of Northwest Alaska. Kotzebue, AK: NANA Museum of the Arctic and the National Park Service.

Dau, Jim, Rachel Brubaker, and Lee Anne Ayers. 1995. Upper Kobuk Drainage Moose Census. Alaska Depart. of Fish and Game, unpublished report. Kotzebue, AK.

Dau, Jim and Lee Anne Ayers. 1996. Personal communication. Alaska Dept. of Fish and Game. Kotzebue, AK.

Engelhard, Michael, Linda J. Ellanna, and George K. Sherrod. 1993. Ethno-historic Insights into Indigenous Contact and Land Use on the Upper Kobuk and Koyukuk rivers. Unpublished Manuscript. National Park Service.

Georgette, Susan and Hannah Loon. 1990. Subsistence and Sport Fishing of Sheefish on the Upper Kobuk River, Alaska. Alaska Depart. Of Fish and Game. Tech. Paper No. 175. Kotzebue, AK.